

	REGIONAL FACTORS
	terrain including mountains, hills and trees
	signal reflections off buildings or other structures
	EMF interface
	microwave interference
ė.	radio frequency interference
mixi	ng (channel overlap or frequency separation) of an interfering signal with the desired signal resulting in intermodulation and added noise

DYNAMIC FACTORS	
weather	
storms	
humidity	
seasonal variations	·
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RETRANSMISSION FACTORS from transmitter to transmitter to set-top box from transmitter to satellite to terrestrial set-top box from transmitter to satellite to transmitter to set-top box

Error Correction Engine

controls and optimizes bandwidth and Quality of Service (QOS) of a given broadcast based on regional factors including terrain, dynamic factors including weather and season, and retransmission factors

compiles data on reported factors and predict unreported factors that cause data transmission errors

employs error correction on data to be transmitted, based on at least one of the data on the reported factors and the unreported factors

utilizes error correction coding and error detection coding

utilizes Forward Error Correction (FEC) and carouselling

dynamically adjusts error correction levels

utilizes convolutional (tree) codes and block codes

no other error analysis input is required for error correction

$$D(t) = D (t) + D (t)$$

$$r \qquad p$$

$$D_r(t) = D_r(t) + D_r(t)$$

 $s = regional \ data$ $s = environmental \ data$

$$D_{p}(t) = D_{p}(t) + D_{p}(t)$$

$$s = regional \ data \qquad s = environmental \ data$$

=
$$D_p(t)$$
 + $D_p(t)$ + $D_p(t)$ + $D_p(t)$ + $D_p(t)$ + $D_p(t)$ + $D_p(t)$ s=terrain s =weather s =atmospheric data s =sunspot activity s =keplerian data s =retransmission factors

Key:

D= data

t = time

r= reported p=predictive

s= source

FIG. 4

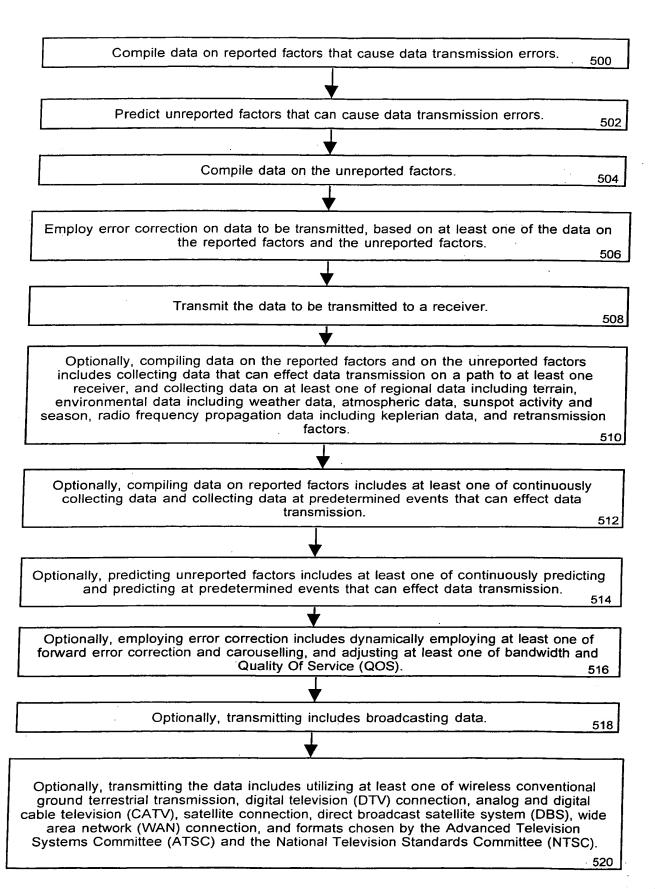


FIG. 5